Abstract Submitted
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The GlueX Start Counter[1] ANTHONY LLODRA, ERIC POOSER, Florida Intl Univ, GLUEX COLLABORATION — The GlueX experiment, which is online as of October of 2014, will study meson photo production with unprecedented precision. This experiment will use the coherent bremsstrahlung technique to produce a 9 GeV linearly polarized photon beam incident on a liquid H_2 target kept at a few degrees Kelvin. A Start Counter detector has been fabricated to identify the accelerator electron beam buckets, approximately 2 nanoseconds apart, and to provide accurate timing information. This detector is designed to operate at photon intensities of up to 108 γ/s in the coherent peak and provide a timing resolution of less than 350 picoseconds so as to provide successful identification of the electron beam buckets. It consists of a cylindrical array of 30 scintillators with pointed ends that bend towards the beam at the downstream end. The EJ-200 scintillator is best suited for the Start Counter due to its fast decay time on the order of 2 nanoseconds and long attenuation length. Silicon Photo Multiplier (SiPM) detectors have been selected as the readout system and are to be placed as close as possible, less than 300 micron, to the upstream end of each scintillator. The methods/details of the assembly and the optimization of the surface quality of scintillator paddles are discussed.

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